We claim:

1. A method for rendering a region of a composite glyph, comprising:

defining a composite glyph by a set of elements;

generating a set of two-dimensional distance fields using the set of elements, wherein each two-dimensional distance field in the set of two-dimensional distance fields is partitioned into cells, each cell including a method for reconstructing the corresponding two-dimensional distance field within the cell, a composition of the set of two-dimensional distance fields representing the composite glyph; and

rendering a region of the composite glyph using the set of two-dimensional distance fields, the rendering further comprising:

identifying, for each two-dimensional distance field in the set of two-dimensional distance fields, a set of cells of the two-dimensional distance field, the set of cells associated with the region of the composite glyph;

locating a set of pixels associated with the region;

specifying a set of components for each pixel in the set of pixels; and

determining an antialiased intensity for each component of each pixel in the set of pixels, the determining further comprising:

determining, for each two-dimensional distance field in the set of two-dimensional distance fields, a corresponding distance for the component of the pixel from the corresponding set of cells;

combining the corresponding distances to determine a combined distance; and

mapping the combined distance to the antialiased intensity of the component of the pixel.

2. The method of claim 1 wherein a particular element in the set of elements is a stroke.

3. The method of claim 1 wherein a particular element in the set of elements is an outline.

4. The method of claim 1 wherein a particular element in the set of elements is a radical.

5. The method of claim 1 wherein a particular element in the set of elements is a stroked radical.

6. The method of claim 1 wherein a particular element in the set of elements is a two-dimensional shape descriptor.

7. The method of claim 1 wherein a particular element in the set of elements is a one-dimensional shape descriptor.

8. The method of claim 1 wherein a particular element in the set of elements is a path.

9. The method of claim 1 wherein a particular element in the set of elements is a distance field.

10. The method of claim 1 wherein a particular element in the set of elements is a distance map.

11. The method of claim 1 wherein a particular element in the set of elements is an adaptively sampled distance field.

12. The method of claim 1 wherein a particular element in the set of elements is a procedure.

13. The method of claim 1 wherein a particular element in the set of elements is a distance function.

14. The method of claim 1 wherein a particular element in the set of elements is an implicit blend of a first shape descriptor and a second shape descriptor.

15. The method of claim 1 wherein a particular element in the set of elements is a skeletal descriptor with a corresponding offset descriptor.

16. The method of claim 1 wherein a particular element in the set of elements is drawn by a user.

17. The method of claim 1 wherein the defining is performed automatically by a procedure.

18. The method of claim 1 wherein the defining is performed by a user.

19. The method of claim 1 wherein the defining is performed semi-automatically by a procedure and a user.

20. The method of claim 1 wherein the defining further comprises:

determining a shape descriptor for a particular element in the set of elements; and

determining a distance function for the shape descriptor to define the particular element.

21. The method of claim 1 wherein the defining determines the set of elements from a distance field of a shape descriptor for the composite glyph.

22. The method of claim 1 wherein a particular two-dimensional distance field in the set of two-dimensional distance fields is an adaptively sampled distance field.

23. The method of claim 1 wherein a particular two-dimensional distance field in the set of two-dimensional distance fields comprises a set of distances stored in a memory.

24. The method of claim 1 wherein a particular two-dimensional distance field in the set of two-dimensional distance fields is represented by a procedure.

25. The method of claim 1 wherein the combining performs a maximum of the corresponding distances to determine the combined distance.

26. The method of claim 1 wherein the combining performs an arithmetic average of the corresponding distances to determine the combined distance.

27. The method of claim 1 wherein the combining performs a union of the corresponding distances to determine the combined distance.

28. The method of claim 1 wherein the combining performs an intersection of the corresponding distances to determine the combined distance.

29. The method of claim 1 wherein the combining performs a difference of the corresponding distances to determine the combined distance.

30. The method of claim 1 wherein the combining performs an implicit blend of the corresponding distances to determine the combined distance.

31. The method of claim 1 wherein the combining performs an arithmetic operation on the corresponding distances to determine the combined distance.

32. The method of claim 1 wherein the combining performs a conditional operation on the corresponding distances to determine the combined distance.

33. The method of claim 1 wherein the combining uses a procedure to determine the combined distance.

34. The method of claim 1 wherein the combining uses a table to determine the combined distance.

35. A method for rendering a region of a composite glyph, comprising:

defining a composite glyph by a set of elements;

generating a set of two-dimensional distance fields using the set of elements, wherein each two-dimensional distance field in the set of two-dimensional distance fields is partitioned into cells, each cell including a method for reconstructing the

corresponding two-dimensional distance field within the cell, a composition of the set of two-dimensional distance fields representing the composite glyph; and

rendering a region of the composite glyph using the set of two-dimensional distance fields.

36. The method of claim 35 wherein the rendering further comprises:

identifying, for each two-dimensional distance field in the set of two-dimensional distance fields, a set of cells of the two-dimensional distance field, the set of cells associated with the region of the composite glyph;

locating a set of pixels associated with the region;

specifying a set of components for each pixel in the set of pixels; and

determining an antialiased intensity for each component of each pixel in the set of pixels.

37. The method of claim 36 wherein the determining further comprises:

determining, for each two-dimensional distance field in the set of two-dimensional distance fields, a corresponding distance for the component of the pixel from the corresponding set of cells;

combining the corresponding distances to determine a combined distance; and

mapping the combined distance to the antialiased intensity of the component of the pixel.

38. The method of claim 35 wherein a particular element in the set of elements is a stroke.

39. The method of claim 35 wherein a particular element in the set of elements is an outline.

40. The method of claim 35 wherein a particular element in the set of elements is a radical.

41. The method of claim 35 wherein a particular element in the set of elements is a stroked radical.

42. The method of claim 35 wherein a particular element in the set of elements is a two-dimensional shape descriptor.

43. The method of claim 35 wherein a particular element in the set of elements is a one-dimensional shape descriptor.

44. The method of claim 35 wherein a particular element in the set of elements is a path.

45. The method of claim 35 wherein a particular element in the set of elements is a distance field.

46. The method of claim 35 wherein a particular element in the set of elements is a distance map.

47. The method of claim 35 wherein a particular element in the set of elements is an adaptively sampled distance field.

48. The method of claim 35 wherein a particular element in the set of elements is a procedure.

49. The method of claim 35 wherein a particular element in the set of elements is a distance function.

50. The method of claim 35 wherein a particular element in the set of elements is an implicit blend of a first shape descriptor and a second shape descriptor.

51. The method of claim 35 wherein a particular element in the set of elements is a skeletal descriptor with a corresponding offset descriptor.

52. The method of claim 35 wherein a particular element in the set of elements is drawn by a user.

53. The method of claim 35 wherein the defining is performed automatically by a procedure.

54. The method of claim 35 wherein the defining is performed by a user.

55. The method of claim 35 wherein the defining is performed semi-automatically by a procedure and a user.

56. The method of claim 35 wherein the defining further comprises:

determining a shape descriptor for a particular element in the set of elements; and

determining a distance function for the shape descriptor to define the particular element.

57. The method of claim 35 wherein the defining determines the set of elements from a distance field of a shape descriptor for the composite glyph.

58. The method of claim 35 wherein a particular two-dimensional distance field in the set of two-dimensional distance fields is an adaptively sampled distance field.

59. The method of claim 35 wherein a particular two-dimensional distance field in the set of two-dimensional distance fields comprises a set of distances stored in a memory.

60. The method of claim 35 wherein a particular two-dimensional distance field in the set of two-dimensional distance fields is represented by a procedure.

61. The method of claim 37 wherein the combining performs a maximum of the corresponding distances to determine the combined distance.

62. The method of claim 37 wherein the combining performs an arithmetic average of the corresponding distances to determine the combined distance.

63. The method of claim 37 wherein the combining performs a union of the corresponding distances to determine the combined distance.

64. The method of claim 37 wherein the combining performs an intersection of the corresponding distances to determine the combined distance.

65. The method of claim 37 wherein the combining performs a difference of the corresponding distances to determine the combined distance.

66. The method of claim 37 wherein the combining performs an implicit blend of the corresponding distances to determine the combined distance.

67. The method of claim 37 wherein the combining performs an arithmetic operation on the corresponding distances to determine the combined distance.

68. The method of claim 37 wherein the combining performs a conditional operation on the corresponding distances to determine the combined distance.

69. The method of claim 37 wherein the combining uses a procedure to determine the combined distance.

70. The method of claim 37 wherein the combining uses a table to determine the combined distance.